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ABSTRACT

This paper investigates the influence of racial and ethnic composition of labor markets on earnings inequality among Black, Hispanic, Asian, and white men to determine whether the influence of minority regional concentration on earnings differs by educational level. Consistent with other studies, this analysis, based on the 1980 Public Use Microdata Samples, produced negative additive effects of such concentration on the earnings in 1979 of nonwhite and Hispanic men. Results showed that minority workers lose financially from the labor market concentration of other nonwhites, whereas whites benefit, no matter what the educational level. This finding suggests that both competition and discrimination operate to economically differentiate workers along racial and ethnic lines. Furthermore, educational level widened rather than narrowed white-nonwhite earnings differences. As expected, whites benefit most from the presence of a large minority work force, while blacks lose the most. However, results with respect to Hispanics and Asians are somewhat ambiguous. This suggests that their distinction from whites is based largely on ethnicity rather than race and further implies that Asians and Hispanics, but not blacks, may eventually reach socioeconomic parity with whites as they advance in their cultural assimilation. (Author/ETS)

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MINORITY CONCENTRATION AND EARNINGS INEQUALITY: A REVISED FORMULATION

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Institute for Research on Poverty
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MINORITY CONCENTRATION AND EARNINGS INEQUALITY: A REVISED FORMULATION

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Abstract

This paper investigates the influence of racial and ethnic composition of labor markets on earnings inequality among black, Hispanic, Asian, and white men to determine whether the influence of minority regional concentration on earnings differs by educational level. Consistent with other studies, our analyses, based on the 1980 Public Use Microdata Samples, produced negative additive effects of such concentration on the earnings in 1979 of nonwhite and Hispanic men. Our results showed that minority workers lost compared to their white counterparts from residence and work in labor markets with a large share of minority residents, and this relationship was especially pronounced for black men. Additional analyses revealed that these effects were differentiated by educational groups: the earnings losses of black, Hispanic, and Asian men associated with residence in areas of high minority concentration were greatest among workers with college education and lowest among those who had not completed high school. These results help in clarifying competing predictions concerning the ways in which the relative size of minority populations influences the socioeconomic achievements of black, Hispanic, Asian, and white men.

MINORITY CONCENTRATION AND EARNINGS INEQUALITY: A REVISED FORMULATION

Most studies that have examined the relationship between minority socioeconomic achievement and the relative size of minority populations have compared blacks and whites (see Blalock, 1957; Glenn, 1964; Brown and Fuguitt, 1972); few have considered other minority groups (see Frisbie and Neidert, 1977, for a recent exception). Although the emphasis on black-white economic differentials during the early to mid-1970s is understandable, the altered racial/ethnic composition of the U.S. population as a result of the changed composition of contemporary immigration flows warrants the consideration of other groups. In particular, the growing numbers and regional concentration of recent immigrants from Asia and Latin America (Bach and Tienda, 1984) have direct implications for changes in the system of ethnic stratification in the recent past and in years to come. That the increased presence of Asians and Hispanics in the U.S. labor market has consolidated sharp socioeconomic differentials along national-origin lines (Massey, 1981; Tienda, 1983) challenges researchers to consider whether and how inter- and intragroup socioeconomic heterogeneity conditions the influence of minority concentration on racial and ethnic inequality.

Accordingly, in this paper we investigate how the relative size of minority populations among U.S. labor markets differentiates earnings of black, Hispanic, Asian, and white men. Our specific objectives are to ascertain how variation in the relative size of minority populations

influences the average earnings of these three racial/ethnic groups relative to the white majority, and to determine whether these relationships are invariant with respect to educational strata. Before delving into the empirical analysis we review selectively the theoretical and empirical literature bearing on our research question.

Minority Size and Socioeconomic Achievements: Theoretical Considerations

Students of structural analysis owe a special tribute to Georg Simmel (1950) for his insights concerning the significance of numbers in determining social form and process. Simmel was largely interested in the impact of absolute numbers on social structure and process; while he recognized the importance of relative numbers,[1] his work was mostly concerned with the influence of group size and the number of groups on social structure.

Peter Blau (1977) sharpened Simmel's original insights through his distinction between nominal and graduated parameters of social structure and their patterned associations. Nominal parameters divide a population into unordered groups with clearly demarcated boundaries (examples are gender, race, national origin, etc.), whereas graduated ones delineate groups along a hierarchical continuum (examples are income, education, and occupational status). Blau's distinction between nominal and graduated parameters corresponds to two generic forms of social differentiation--heterogeneity and inequality (Blau, 1977; Blau, Blum, and Schwartz, 1982). Heterogeneity depends on the number of groups in a population and the distribution of individuals among them, while inequality depends on differences in the

distribution of resources among groups. The association between nominal and hierarchical properties of collectivities forms a third structural parameter that indicates how much group boundaries intersect. Our interest in the way the racial and ethnic composition of labor markets influences the pattern of earnings inequality among white, black, Asian, and Hispanic men builds on Blau's distinction between nominal and hierarchical differentiation and their conditional association.

Currently there exists a sizable body of empirical literature both in sociology and economics on the relationship between socioeconomic inequality and the relative size of minority populations (see the review in Frisbie and Neidert, 1977). The basic conclusion from these studies is that socioeconomic disparities between majority and minority income widen as the proportion of minorities in a labor market (or ecological unit) increases, and that whites gain at the expense of blacks or other minorities. Despite general agreement about the relationship between minority concentration and income disparities, the evidence based on alternative measures of socioeconomic inequality, such as occupational status, is less consistent. Consequently, there is some disagreement about the interpretation of the influence of minority concentration on hierarchical differentiation, and especially about the social dynamics responsible for persisting and/or growing income inequality.

Evidence presented by Frisbie and Neidert (1977) showed that both majority and minority workers benefited in terms of occupational status from the labor market concentration of minority workers, but only white workers gained financially. These authors claimed that the inability of blacks to translate their gains in occupational status into a clear financial advantage as greater

numbers of blacks entered the labor market resulted from discrimination, largely resulting from the higher compensation of whites for similar work. Frisbie and Neidert speculated that discrimination might be mitigated in areas where minorities are highly concentrated if people of color were successful in creating and maintaining separate but parallel economic niches, or enclaves, which could partly insulate nonwhite workers from economic competition with majority whites.

Despite the appeal of the ethnic-enclave concept in explaining earnings disparities among minority workers, this idea has received only limited empirical scrutiny in recent studies of ethnic enclaves (Wilson and Portes, 1980; Portes and Bach, 1985). The evidence on the benefits from participation in an enclave economy is mixed. On the one hand, minority workers may benefit occupationally in markets where they constitute a fraction of the population large enough to develop an economic niche that serves and is patronized by individuals of like race or ethnicity. On the other hand, because people of color have generally lower incomes than majority whites, they may be less able to pay for goods and services provided by enterprises owned and operated by members of their own racial or ethnic group. This situation may serve to keep down the earnings levels of minority professionals and entrepreneurs.

Among economists, Michael Reich (1971) has provided useful insights concerning the labor market dynamics that differentiate earnings as greater numbers of minority workers enter the labor market. His basic contention, for which he provided compelling empirical support, is that the presence of black workers in the labor market increases overall income inequality through the income shares received by white, but not black, workers. Specifically, he

showed that increases in racism (operationalized as the ratio of black median family income to white median family income) "had an insignificant effect on the [income] share received by the poorest whites, and resulted in a small decrease in the income share of whites in the middle-income bracket" (Reich, 1971:186-87); upper-income whites thus gained more. By way of explanation he proposed two mechanisms through which racism and discrimination increase inequality among nonwhites: (1) the inhibition of union growth and labor militancy; and (2) the reduction of access to education, which is the central basis of skill differentiation in the labor market. Reich's results thus suggest a conditional relationship between the nominal and hierarchical properties of the work force (Blau, 1977), a possibility we test below.

Alternative explanations of the association between the relative size of a minority population and socioeconomic achievements reflect competing theoretical predictions about the underlying social dynamics. For example, two interpretations of a direct relationship between percentage minority and socioeconomic inequality are the overflow and the power thesis. The <u>overflow thesis</u> argues that when the size of a minority reaches a critical threshold, some members of the minority population will "spill over" into high status jobs. A more structural interpretation of the overflow thesis maintains that once a critical threshold of group size with respect to the majority is attained, the smaller group will develop "forms" and "organs" which serve its maintenance and promotion (Simmel, 1950; Chapter 1). It is in this context that ethnic economic enclaves can become key sources of socioeconomic differentiation. The <u>power thesis</u> predicts that increases in the proportion of minorities in a population will increase political influence and economic

bargaining power (Reich, 1971). Such collective behavior may result in the attenuation of discrimination through the enactment of protective legislation, or through demanding concessions from majority group members, such as equal representation in all jobs or equal pay for equal work. Evidence for the power thesis usually requires a structural-historical analysis which considers the politics of work and pay both within firms and at the societal level, a task beyond the scope of the present analysis (see Bonacich, 1980).

Two explanations of an inverse association between the relative size of minority populations and their socioeconomic achievements are discrimination and economic competition (Noel, 1968; Reich, 1971). The discrimination thesis maintains that increases in the relative size of minority group members in the face of competition over shared and scarce resources will heighten the perceived economic and political threat posed by the minority to the majority. This in turn prompts defensive discrimination and leads to the exclusion of minorities from access to highly valued socioeconomic positions and resources. The competition thesis differs from the discrimination thesis mainly in its emphasis on the mechanisms which produce labor market discrimination against minority workers. According to it, when increase in the relative size of minority groups accentuates competition for higher-status, better-paying jobs, majority workers will subordinate minority workers by utilizing them as a source of cheap labor and as a way to drive down wage levels (Noel, 1968; Reich, 1971; Bonacich, 1980).

Competing predictions about the influence of minority concentration on socioeconomic inequality derive partly from use of alternative dependent variables -- that is, earnings versus occupational status -- and partly from

unverified assumptions that minority populations are homogeneous with respect to hierarchical differentiation and that majority group members do not distinguish one minority group from another in the work force. Until some attempt is made to disentangle the potentially offsetting effects of nominal and hierarchical differentiation within the minority population, the net association between minority group size and socioeconomic outcomes is potentially ambiguous. Thus, our empirical analyses are designed to test the hypothesis that the effects on earnings of nominal (race and ethnicity) differentiation do not merely add to the hierarchical (educational) differentiation of the minority work force, but they also magnify differences among minority workers with respect to each other and to whites.

Noel (1968) provides further justification for our decision to differentiate the effects on earnings of minority concentration according to educational levels and more detailed distinctions within race/ethnicity groups. He aptly points out that an inevitable consequence of ethnocentrism (discrimination can be seen as one type of ethnocentrism) is the rejection or downgrading of all "out-groups," or minority groups, according to the extent of difference from the "in-group," or majority group. The greater the differences, the lower will be the relative socioeconomic rank of a given minority group. This logic suggests that because of their racial similarity to the majority group (ethnic differences notwithstanding), Hispanics should be subjected to the least amount of discrimination among the three groups considered. Asians are more racially distinct from whites than most Hispanics, although to a lesser extent than blacks. However, their higher educational achievements could render them preferential treatment over

Hispanics. Because of their greater racial dissimilarity and lower levels of education, we expect, as much past research has shown, that blacks will be ranked lowest on the socioeconomic hierarchy, and will be subjected to more intense discrimination and social ostracism than either Asians or Hispanics. This outcome will result in lower earnings, net of income-enhancing productivity characteristics.

A final reason for distinguishing the effects of minority concentration on earnings according to education is to examine more closely the premises of the overflow thesis. We expect that the increase in minority concentration will to some extent expand employment opportunities as both the economy and the total labor force grows. Because not all members of minority groups will experience an equal likelihood of "overflowing" into higher-status jobs, despite continued occupational upgrading (see recent evidence in Singelmann and Tienda, 1985), education and job skills will be the major screening criteria for hiring and promoting individual workers. This suggests that the overflow of minority workers into higher-paying jobs will favor the better educated over the less educated unless, of course, the formation of ethnic enclaves results in net income losses to the better educated.

Data and Methods

We base our analysis on the Public Use Microdata Samples of the 1980 census (the 5 percent A File). This data set is suitable because the 5 percent file contains large samples of Hispanics and blacks and Asians. Our empirical analysis entails estimating earnings models as a function of individual, social, and demographic characteristics for men aged 16-64 who

were not enrolled in school or residing in institutional quarters at the time of the census. We are primarily interested in estimating the relationships among three variables--race/national origin, educational level, and percentage minority population in a particular area--and the dependent variable, 1979 (unlogged) annual earnings.[2] So as not to bias our estimates of the independent variables, we introduce a set of controls for socioeconomic and labor market characteristics known to influence earnings. Table 1 identifies all variables, and provides a brief operational description.

Most of the variables used are self-evident and need no further discussion. One exception is our decision to use a single variable for the minority concentration effects. Kanter's (1977) notion of a "tilted group" provides some theoretical justification for our use of a pooled measure of minority concentration (as opposed to several separate indicators denoting percentage black, Hispanic, and Asian). She claims that minority members often form coalitions or behave as allies in reacting to the discriminatory practices of majority-group members.[3] Moreover, she found that "tilted groups" manifest less extreme distributions and less exaggerated structural effects than highly skewed (that is, relatively tiny) groups. Thus, by employing a pooled measure of the minority porportion, we will produce more conservative estimates of the structural effects of this measure.[4] Our primary interest is to differentiate educational effects on income by race and ethnic group.

To estimate the impact of minority concentration on the earnings of our four race/ethnicity groups, we first fit the baseline model which introduces minority concentration as an additive term:

Table 1

Definitions of Variables Used in the Analyses

Variables	Operational Description
Dependent	
Earnings	1979 annual earnings of men wage and salary
Independent	
Race or ethnicity	Series of dummy variables indicating if respondents were: -Black, not of Hispanic origin -Hispanic origin -Asian -White, not of Hispanic origin
Education	Series of dummy variables indicating if highest grade completed was -less than high school (< 12 years) -high school with up to three years of college (12-15 years) -college graduate (16-17 years) -some graduate training (18+ years)
Minority concentration	Percentage of working-age population in SMSA (metropolitan area) or nonmetropolitan subareas who were either black, Hispanic or Asian
Controls	
Experience	Labor market experience proxy derived as (age-education-6)
$(\text{Experience})^2$	Square of experience
Married	Dummy variable coded 1 if respondent was married
Health status	Dummy variable coded 1 if respondent had no work-limiting disability
Weeks	Number of weeks worked in 1979
Hours	Usual number of hours worked per week
Area wage rate	Average 1979 hourly wage rate for full-time, full-year workers in SMSA or nonmetropolitan areas

$$Y_{ij} = \alpha + \beta M_j + \gamma_x R_k + X_{ij} + \varepsilon_{ij}, \qquad (1)$$

where Y_{ij} = the earnings of i^{th} individuals in j^{th} geographical area;

M_j = % minority in j^{th} unit;

R_k = 1 if minority; 0 otherwise, and k = 1, 2, 3, representing black, Hispanic, and Asian, respectively;

X_{ij} = a vector of the controls identified in Table 1;

ε_{ij} = an error term.

The baseline model enables us to evaluate the <u>overall</u> impact of minority concentration on individual earnings, ignoring intergroup heterogeneity, which we hypothesize mediates its influence.

To see if the impacts of minority concentration differ among the race/ethnicity groups, we introduce in model (1) an interaction term ($M_j * R_k$) between percentage minority and the four racial groups:

$$Y_{ij} = \alpha + \beta M_j + \gamma_k R_k + \delta_k (M_j * R_k) + X_{ij} + \varepsilon_{ij}. \qquad (2)$$

Essentially, model (2) enables us to determine whether the impacts of minority concentration differ by race/ethnicity, without regard to the educational differentiation within each group. If the effects of percentage minority differ by race, our model would show that $\delta_0 \neq \delta_1 \neq \delta_2 \neq \delta_3$. Furthermore, if minority concentration translates into earnings gains by whites and losses by minorities, we would show that $\beta > 0$ and $\delta_1, \delta_2, \delta_3 < 0$.

To test our hypothesis that the influence of minority concentration on earnings is differentiated by education within each racial group, we first created 16 subgroups based on nominal and hierarchical parameters (4 races X 4 educational levels), and then computed an interaction term ($M_j * ER_k$) between the 16 racial/educational groups and percentage minority. That is,

$$Y_{ij} = \alpha + \beta M_j + \gamma_k ER_k + \delta_k (M_j * ER_k) + X_{ij} + \varepsilon_{ij} \quad (3) \quad ,$$

where K = 1, 2 . . . 15; whites with postgraduate degrees serve as the reference group. This model establishes whether the impact of minority concentration differs among the 16 race/education groups, in which case $\delta_0 \neq \delta_1 \neq \delta_2 \cdot \cdot \cdot \neq \delta_{15}$. Moreover, if whites gain, while minorities lose, from the presence of large shares of minority workers, then $\beta > 0$, and $\delta_k < 0$.

Results

Table 2, which presents means and standard deviations for the variables included in the analysis, shows considerable socioeconomic differentiation among the racial/ethnic groups. Annual earnings in 1979 ranged from a low of $11,000 to a high of $17,600, with black and Hispanic men clustered toward the lower end of the continuum, while Asian and white men reported the highest average earnings. Although Asians are more racially distinct from whites than are Hispanics, the smaller Asian and white earnings dispersion partly reflects the comparative educational advantage of Asians. Nearly half of all Asian men employed in 1979 had a college degree, compared to 26 percent of white men, and roughly 13 percent of black and Hispanic men. At the opposite end of the educational spectrum, less than 15 percent of Asian men had completed fewer

Table 2

Means and Standard Deviations of Variables Used in the Analysis

Variables	Employed Men			
	Blacks	Hispanic	Asian	White
Dependent				
1979 annual earnings	$11,077	$12,386	$15,780	$17,612
	(8,734)	(9,057)	(11,658)	(11,993)
Independent				
% Education				
< 12 years	34.7	44.5	14.7	21.9
	(47.6)	(49.7)	(35.4)	(41.4)
12-15 years	51.9	42.5	38.2	51.9
	(50.0)	(49.4)	(48.6)	(50.0)
16-17 years	8.5	8.0	24.5	16.8
	(27.8)	(27.2)	(43.0)	(37.4)
$\geq$ 18 years	5.0	4.9	22.7	9.4
	(21.8)	(21.6)	(41.9)	(29.1)
% Minority	24.6	30.3	25.6	16.4
	(10.9)	(15.1)	(10.8)	(12.0)
Controls				
% Married	63.8	76.2	75.3	78.3
	(48.1)	(42.6)	(43.2)	(41.3)
% Healthy	90.5	93.4	96.4	91.7
	(29.4)	(24.8)	(18.6)	(27.6)
Weeks worked	40.9	42.9	44.2	45.6
	(18.0)	(16.1)	(15.0)	(13.8)
Hours worked per week	35.7	38.1	39.1	40.7
	(15.3)	(14.4)	(13.8)	(13.1)
Area average wage ($)	7.39	7.49	7.80	7.23
	(1.01)	(0.90)	(0.77)	(0.97)
Age (years)	39.6	39.0	38.90	41.8
	(11.0)	(10.7)	(10.4)	(11.5)
N	2,533	15,517	7,279	3,502

Source: 1980 Public Use Microdata Samples, 5 percent A File.

than 12 years of graded schooling, whereas 22 percent of white men, 35 percent of black men, and 45 percent of Hispanic men in our sample had not completed high school.

Consistent with past research on residential segregation, 1980 census data show that, on average, whites were least likely and Hispanics were most likely to reside in areas of high minority concentration. In 1979, the average employed white man worked in a labor market where 16 percent of the working-age population was minority. Among nonwhite men, the average size of the minority work force ranged from a high of 30 percent for Hispanics to 25 percent for blacks and Asians. As indicated by the larger standard deviations for their percentage-minority terms, there was greater dispersion in work and residence patterns among whites and Hispanics.

Part of the earnings variation among minority and nonminority men stems from their differing labor supply patterns. White men worked an average of 46 weeks in 1979 as compared to the averages of 43 to 44 weeks reported by Hispanics and Asians. Black men worked the fewest number of weeks, averaging 41 in 1979. Moreover, whites worked more hours per week in 1979, averaging 41 hours as compared to less than 36 for employed black men. Hispanic and Asian men worked longer average work weeks than blacks, reporting 38 and 39 hours, respectively, in 1979.

Overall, employed men varied less in terms of their demographic than in their employment characteristics. White men were slightly older than minority men, but with the exception of black men, the proportion married was similar across groups. Black men were about 10 percent less likely to be married than other minority or white men, and they were slightly more likely to report the

presence of a work-limiting health disability. Interestingly, despite their relatively higher average annual earnings, the average wage rates of the labor markets in which whites worked were lower than those in markets where minority workers were disproportionately concentrated.

Baseline Models

Table 3 reports the results based on our estimation of equations (1) and (2). Model (1), which introduces race, education and percentage minority as additive terms, constrains the effect of minority concentration to be uniform among all groups, and thus serves as a baseline against which the successively more complicated models can be assessed. Consistent with findings reported elsewhere (Tienda, 1981; Borjas and Tienda, 1985; Goza, 1983), in 1979 there was a substantial penalty associated with minority status. On an average annual basis, this penalty ranged from $3100 for blacks to $2800 for Hispanics and Asians. Also, and in accord with the predictions of human capital theory, workers with lower levels of education earned significantly less than otherwise comparable men with more education. Earnings differentials by educational groups were sharpest between those with less than high school and those with college degrees, but the positive relationship between education and earnings was generally monotonic.

In this simple additive specification, the negative point estimate associated with the percentage-minority term indicates that each percentage point increase in the share of a labor market composed by minority workers lowered the annual earnings of working men by $29, above and beyond the effects of race, education, and the vector of controls. This effect does not appear to be substantively interesting, despite its statistical significance

Table 3

Simple Additive and First-Order Effects[a] of Individual Race or Ethnicity and Minority Concentration on 1979 Earnings of Men
(standard errors in parentheses)

	Effects of Model 1	Effects of Model 2
Additive Terms[b]		
Race/Ethnicity		
Black	$-3080**	$-1333**
	(150)	(320)
Hispanic	-2742**	-1436**
	(114)	(193)
Asian	-2831**	-1626**
	(123)	(239)
Education		
< 12 years	-11297**	-11259**
	(140)	(140)
12-15 years	-7857**	-7818**
	(125)	(125)
16-17 years	-3557**	-3531**
	(142)	(142)
% Minority	-29**	39**
	(2)	(8)
First-Order Interactions with % Minority		
Black	-[c]	-94**
	-	(13)
Hispanic	-	-75**
	-	(9)
Asian	-	-71**
	-	(10)
Constant	-4249.31	-5117.68
R^2	.394	.395

Source: 1980 Public Use Microdata Samples, 5 percent A File.
[a]Effects are rounded to the nearest whole dollar and are net of work experience, experience squared, marital status, health status, weeks worked in 1979, usual hours worked per week, and average wage rate for area units.
[b]Reference categories are Education = 18+ years; Race = White.
[c]Not included in regression model.
* $p \leq .05$
** $p \leq .01$

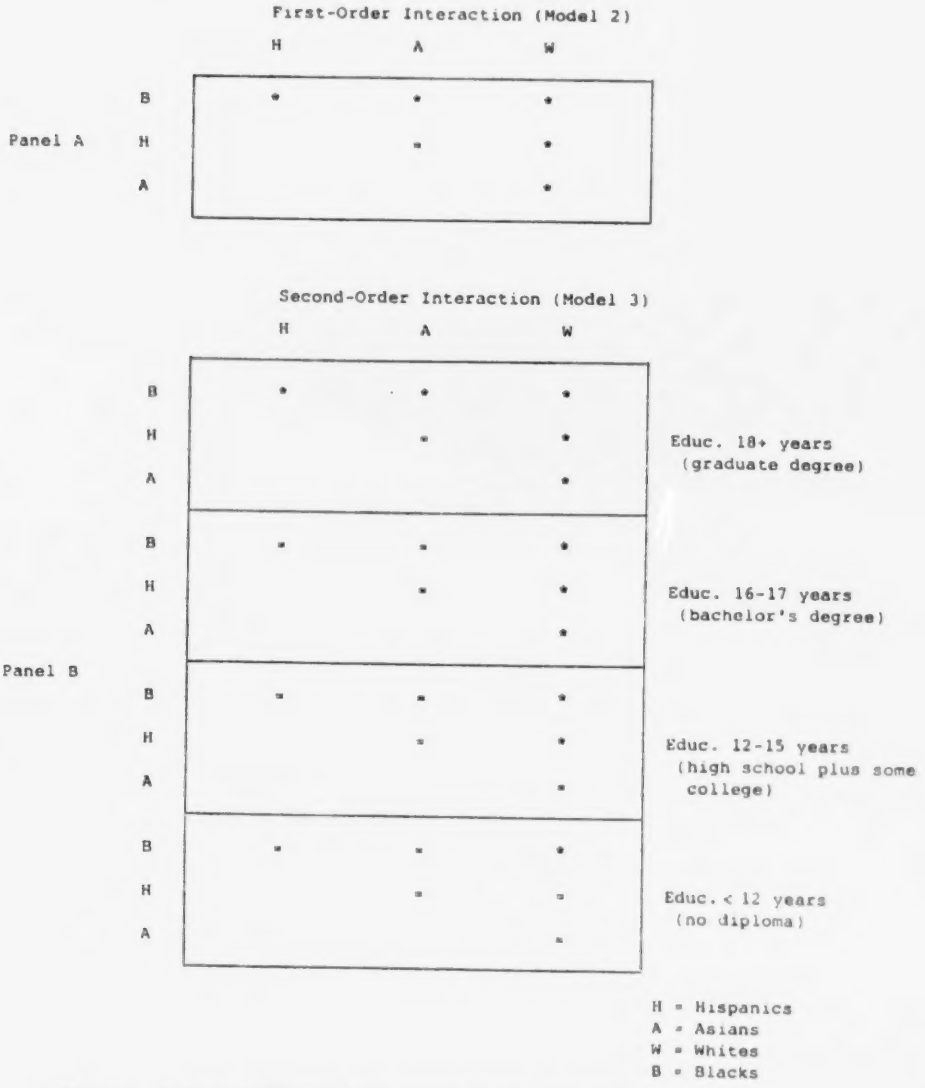
and consistent sign. However, as the second column of Table 3 shows, upon relaxing the assumption of a uniform effect of minority concentration on the earnings of all groups, we find that the small aggregate negative effect conceals the uneven effects among blacks, Hispanics, Asians, and whites. As hypothesized, not only were the effects of minority concentration significantly different from zero for all groups, but the point estimates for the interaction terms differ significantly from each other. Thus, by allowing for differentiated effects of minority concentration by race and ethnicity, we show that whites gained $39, on an average annual basis, for each unit increase in the minority concentration of their labor markets, while blacks lost $55 (39-94 = 55) for each unit increase in the minority concentration of their labor market. Hispanics and Asians lost $36 and $32, respectively, for each unit increase in the minority density of their labor market. As a result of white earnings gains and minority earnings losses associated with patterns of labor market concentration, the economic inequality between majority and minority increased.

Panel A of Figure 1 summarizes the tests of significance for earnings disparities conditioned by minority concentration. Our point estimates between white workers and the three minority groups are significantly different from each other. In 1979, blacks lost more from residence in areas of high minority concentration than did either Hispanics or Asians, but the latter two groups did not differ from each other with respect to the effect of minority concentration on their earnings.

Results reported in Table 4 lend support to our hypothesis that the influence on earnings of minority concentration depends on workers'

Figure 1

Results of Significance Tests for Earnings Losses Associated with Minority Concentration: Predictions from First- and Second-Order Multiplicative Models



Source: T-tests computed from second-order interactions shown in Table 4.

Key: Star indicates significant ($p < .05$) earnings difference associated with minority concentration; equal sign indicates no significant difference.

Table 4

First- and Second-Order Multiplicative Effects of Race or Ethnicity, Education, and Minority Concentration on 1979 Dollar Earnings: Fully Saturated Model[a]

Race/Education Groups	First-Order Interactions[b] Effects[d]	(s.e.)	Second-Order Interactions[c] Effects[d]	(s.e.)	Additive Effects (s.e.)
White					
< 12	$-8685**	(670)	$-99**	(31)	
12-15	-5553**	(614)	-90**	(28)	
16-17	-440	(702)	-53	(32)	
Black					
< 12	-9109**	(747)	-185**	(31)	
12-15	-7630**	(690)	-154**	(29)	
16-17	-4216**	(1073)	-148**	(42)	
18+	2893*	(1414)	-291**	(53)	
Hispanic					
< 12	-10603**	(596)	-147**	(26)	
12-15	-6707**	(595)	-156**	(26)	
16-17	-2868**	(669)	-148**	(28)	
18+	171	(715)	-151**	(29)	
Asian					
< 12	-10825**	(759)	-157**	(31)	
12-15	-7773**	(649)	-127**	(28)	
16-17	-3986**	(679)	-115**	(29)	
18+	2002**	(650)	-183**	(28)	
% Minority					$115** (26)

Source: 1980 Public Use Microdata Samples, 5 percent A File.

[a]Effects are rounded to the nearest whole dollar and are net of effects of work experience, experience squared, marital status, health status, weeks worked in 1979, usual hours worked per week, and average wage rate for area units.

[b]First-Order interaction: Race/ethnicity by education.

[c]Second-Order interaction: Race/ethnicity by education by % minority.

[d]Reference category is white men with graduate schooling.

* $p \leq .05$.

** $p \leq .01$.

education. Not only were 13 of the 15 first-order interaction terms significantly different from zero, but so were all except one of the 15 second-order interactions. A positive coefficient for the additive percentage-minority term indicates that white men with a postgraduate degree, our reference group, received an annual increment of $115 for each percentage-point increase in the relative size of the minority work force. The preponderance of negative signs among the first- and second-order interaction terms reveal that most race-by-education groups earned significantly less than did white men with postgraduate degrees, even after adjusting for differences in their demographic and labor supply characteristics. Notable exceptions were black and Asian men holding postgraduate degrees, who earned, respectively, $2900 and $2000 more during 1979 than their comparably educated white counterparts. For blacks, a labor-demand argument could partly explain this outcome, but not so for Asians, whose share of postgraduate degree holders exceeds that of white men. Not reported, but also highly significant, are the negative penalties associated with black or Asian race, which offset much of the bonus associated with higher education. On balance, our results suggest that minority and nonminority workers compete for the same jobs, and that the intensity of such competition is greater among the more educated, but our findings do not rule out the existence of discrimination in producing these effects.[5]

By recalibrating the metric coefficients for the first- and second-order interaction terms, we can provide a clearer picture of how variation in the concentration of minority workers hierarchically differentiates workers along racial and ethnic lines. These calculations, reported in Table 5 and

summarized in Panel B of Figure 1, are derived from the additive property of our linear model. Our results reveal that across all educational levels, minority workers lose financially from the labor market concentration of other nonwhites, whereas whites benefit. However, the amount of earnings differentiation among the racial and ethnic groups depends on their skill (educational) differentiation.

A cursory inspection of the values in Table 5 and the entries in Panel B of Figure 1, which summarize the battery of t-tests for the 24 paired comparisons, show that earnings disparities among the racial and ethnic groups are relatively smaller among those of the lowest educational levels. Stated another way, earnings disparities among nominally and hierarchically differentiated groups resulting from increased minority concentration are greater among the most highly educated and lowest among those who have not finished high school. Among men lacking a high school degree, there are essentially no earnings differences across the racial and ethnic groups, with the sole exception of the disparity between whites and blacks. Although it appears that blacks lose much more than Hispanics and Asians, the measured differences are not statistically different from each other. However, as the educational credentials of the workers rise, the extent of inequality resulting from minority concentration also increases. Thus, each percentage-point increase in minority concentration translates into a significant earnings loss for black and Hispanic men with 12 to 15 years of completed schooling vis-a-vis their comparably educated white counterparts. At the next higher educational stratum (16-17 years), Asians also lose from higher levels of minority concentration. (Refer to Figure 1 for summary of

Table 5

Annual Earnings Losses or Gains Associated with Unit Changes[a] in Minority Concentration: Estimates Based on Equation 3

Educational Levels	Black	Hispanic	Asian	White
18+ years	$-176	$-36	$-68	$115
16-17 years	-33	-33	0	62
12-15 years	-39	-41	-12	25
< 12 years	-70	-32	-42	16

Source: 1980 Public Use Microdata Samples, 5 percent A File.
Note: Results computed from the main effect (% Minority) plus the interaction effect [% Minority * (Edu. x Race)].
[a] A unit change is one percentage-point increase.

tests of significance.) Among the highest educational category, not only are the earnings of all three minority groups significantly differentiated from those of whites, but unit increments in the concentration of minority workers also differentiate the earnings of blacks from Asians and Hispanics, but not the latter two from each other.

Discussion

That white men benefit at the expense of men of color from the labor market concentration of minorities suggests that both competition and discrimination operate to economically differentiate workers along racial and ethnic lines. Larger rather than smaller earnings differences among more highly educated workers indicate that education actually widens rather than narrows white-nonwhite earnings differences. In other words, competition and discrimination may be more severe among the well-educated than among the less educated, who lack the power to bring about changes to improve their labor market standing. Presumably because well-educated nonwhite workers pose a greater threat to the coveted high-paying jobs traditionally dominated by whites, the economic hegemony of the majority is maintained by subordinating men of color into lower-paying jobs.

While this interpretation of our results is both plausible and compelling, especially for proponents of the radical school of earnings inequality, we consider it far too limited because it ignores alternative, complementary explanations that are also consistent with our results. For example, it is quite plausible that the larger earnings discrepancies among the better educated arise precisely because of the "spillover" (discussed in our

theoretical section, above) of higher-educated minorities into upper-status jobs. If "spillover" into higher-status professional jobs occurs with greater frequency in areas of high minority concentration, where increases in relative group size require the formation of parallel or alternative forms of organization for group maintenance and prosperity, the increased earnings differentiation among highly educated men of color may result in part from the participation of a large share of highly educated black, Hispanic, and Asian men in economic pursuits which cater to and serve their respective minority constituents. In other words, to the extent that minority enterprises are patronized by other minorities, a more likely outcome in areas of high versus low minority concentration, the entrepreneurs may be penalized not only as a result of competition with majority whites, but also because of the lesser ability of nonwhite patrons to pay for their services.

This interpretation, which moves further away from our empirical results, is partly conjectural, but it is no more nor less plausible than conventional arguments about how discrimination and competition, which lead to the exclusion of minority workers from higher-status and better-paying jobs, produce earnings inequities observed among comparably skilled workers. However, we readily admit that this interpretation is highly speculative and requires further empirical scrutiny. In proposing this as a tentative and partial explanation of our results, we feel obliged to suggest research avenues for evaluating this alternative explanation. The first step for further investigation consists of verifying whether, in fact, black, Hispanic and Asian men residing in areas of high minority concentration are better represented among the self-employed, and the professional self-employed in

particular, as this will lend support both to the overflow argument in general and the enclave interpretation in particular.

Second, occupational differentiation must be included as an intervening stage in the earnings-differentiation process.[6] Not only will this provide additional direct evidence for evaluating the overflow thesis, but it may also shed new light on the role of minority concentration in producing occupational differentiation among minority and nonminority groups.

A third and final refinement of our analyses entails disaggregation of the pooled percentage-minority term into its constituent parts to determine whether our results hold up under a more fine-grained set of labor market composition measures indicating percentage black, percentage Hispanic, and percentage Asian members. Such an analytic refinement would allow one to relax the somewhat questionable assumption that racial and ethnic groups mobilize as a unified group in making demands upon majority workers. Like the previous extension of our model, this undertaking introduces considerable complexity into the estimation process, but conceivably will provide fruitful insights into the process by which minority concentration operates to stratify the labor force along racial and ethnic lines.

A final comment on our results concerns the correspondence between the nominal and hierarchical differentiation parameters of the male labor force. For the most part, our expectations about the economic ranking of whites and blacks was borne out: like many other researchers before us, we have shown once again that blacks are the most disadvantaged workers, while whites are the most advantaged. Moreover, whites benefit most from the presence of a large minority work force, while blacks lose the most. However, the results

with respect to Hispanics are somewhat ambiguous. In terms of sheer human capital differentials, Asians are clearly more advantaged than Hispanics, and this provides them higher average annual earnings. However, at all schooling levels their earnings are not significantly differentiated by the conditional influence of minority concentration. Why this occurs is unclear, but it suggests that the distinction of Asians and Hispanics from whites is based largely on ethnicity, and not on race. From this, one might infer that with advancing cultural assimilation, Asians and Hispanics may eventually reach socioeconomic parity with whites, while this seems less likely for blacks. On the other hand, the persistence of significant earnings differentiation among the most educated requires that we temper our optimism about the prospects for economic parity even for Asians or Hispanics, at least for the present.

Notes

[1] For example, he notes that four dissidents in an organization of 20 members have less impact than 10 dissidents among 50 members, even though the ratio of dissidents to conformers remains the same.

[2] Although it is common practice to log earnings, there are compelling methodological reasons for not using a semilog function when the models to be estimated involve a series of complex statistical interactions. As Hodson (1985) has demonstrated, the advantages of logging earnings are offset by the generation of counterintuitive results.

[3] We estimated functions which employed group-specific minority concentration measures and produced virtually identical conclusions. We opted for the more parsimonious operationalization of our empirical question.

[4] The fact that the Hispanic and Asian populations are regionally concentrated partly mitigates the conservative bias of our estimates, but not by much.

[5] Economists would argue that within skill levels, minority and nonminority workers are substitutes in production (competing with each other, the winner crowding out the loser) with the exception of the highest educational level, where minority and nonminority workers are complements (the presence of one boosts the productivity of the other) in production.

[6] Because of its nominal character, introducing this variable into the empirical analyses will greatly complicate estimation and will require, at a minimum, separate analyses for each of the groups.

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